

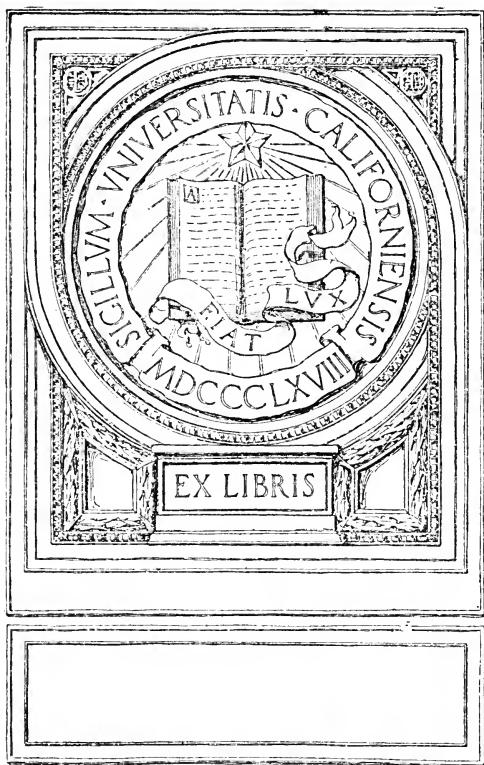
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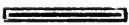


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Restricted Heights — of — Buildings



UNIV. OF
CALIFORNIA

Board of Public Land Commissioners

Milwaukee

1920

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RESTRICTED HEIGHTS OF BUILDINGS

Four years ago the City of New York broke away from the old established principle that a man may do with his property whatever he wishes to and accepted the more democratic principle that the general welfare of the public precedes the rights of individuals. Great property losses, excessive congestion and a serious menace to the health of the community resulted to such an extent from hap-hazard development of real estate and particularly because of the increase in so-called skyscrapers that a proper co-ordination of many of the factors in city organization became imperative. It became distressingly evident that certain facilities, such as transportation, street accommodation, etc., no longer functioned properly and that the desperate situation required an immediate remedy. That remedy, too late administered to give complete relief, but yet effective, is known as the New York Zoning Resolution.

To many good citizens in almost all American cities skyscrapers were tangible evidence of material wealth and prosperity and civic pride or a conviction that high buildings were desirable prompted their erection in large numbers. But the plight in which New York now finds itself began to appear in insipient form in all coast and inland cities of considerable size and the necessity of checking its growth became a recognized civic duty. Zoning ordinances are therefore under consideration in a majority of our larger cities and in Milwaukee the Board of Public Land Commissioners has for upwards of a year gathered necessary data and has prepared an ordinance which now is ready for adoption.

By virtue of this ordinance, the city is divided into districts or zones under three headings. The first is the "use" districting which is designed to prevent the encroachment of undesirable types of buildings or uses to which such buildings may be put in certain districts, thus affording a protection to property values and the general welfare of the public. The second is the "area" districting which is designed to provide sufficient light and air in all types of buildings or districts. The third is the "height" districting which is designed to provide sufficient light and air and to prevent congestion and other conditions inimical to the general welfare.

In the public hearings conducted by the Board of Public Land Commissioners, little opposition was expressed regarding

the "use" and "area" provisions of the proposed ordinance. But to the limitation of building heights considerable objection was taken. The reasons which led the Board of Public Land Commissioners to propose certain height restrictions were not known or understood and unsupported charges of impracticability were frequently made. Because the restrictions are eminently practical and most highly desirable and because a thorough understanding of the underlying reasons for such restrictions is thought to remove many if not all objections, this presentation of facts is offered.

It has been charged that the comparatively low limits provided for in the proposed ordinance were adopted mainly because of aesthetic considerations. Were this true the height limits obtaining in European cities would have been preferred. London, whose volume of business is equal to or exceeds that of New York, limits its buildings to a height of eighty feet. Paris has set a limit of sixty-six feet, Berlin a limit of seventy-two feet, Edinburgh sixty feet, Hamburg seventy-eight feet, and in spite of the fact that American cities have erected skyscrapers for thirty odd years, no European city has chosen to emulate us in that respect.

That concentration of workers is not without value is conceded. But it is only within certain limits, a happy medium as it were, that the value so achieved is not offset by serious disadvantages and it is the problem of a city planning board to determine where the disadvantages become serious.

To those who are familiar with New York and Philadelphia, or for that matter, with the business center of any large American city, it must be evident that there exists a definite relation between street capacity and the capacity of buildings erected on those streets. And it must be evident also that this relation has been so little regarded that few downtown streets in America are now adequate for the proper distribution of pedestrians. In New York, during peak hours, many streets have become quite useless to retail dealers because of excessive crowding and in many other cities the progress of pedestrians is so retarded as to cause serious difficulties in the event of fire or panic. There is not a street in lower New York which will hold 100% of the occupants of the buildings fronting on it and the same holds true of most of the business streets in other large cities.

During the peak hours there are to be found on Grand Avenue between West Water Street and Second Street and on the

south side of the street an average of four to six hundred pedestrians. Were this block to hold a sixteen story office building having a frontage on the entire block an addition of some four thousand persons would use this block during these peak times. And were all the blocks from the river to Sixth Street likewise covered with sixteen story office buildings a congestion would result which it would be difficult to cope with, for the sidewalk capacity in any one of these blocks is only about nine hundred persons. Milwaukee will, one day, be a city of a million or more inhabitants and such a development of skyscrapers on each side of the street is not an impossibility, if restrictions are withheld.

The problem of rapid transportation of passengers from highly congested areas to outlying districts is always a difficult and most costly one to solve. It is one of the very undesirable by-products of unrestricted building heights and seems never possible of a satisfactory solution. It has been stated by a prominent city planning expert that had New York restricted its office buildings to a reasonable height the street and transportation facilities would have been adequate for several hundreds of years to come. Today, in the words of Mr. Lawson Purdy, the former tax commissioner of the great metropolis, the situation in New York is desperate and the future hopeless. Similar conditions, though perhaps not so aggravated, confront Milwaukee if skyscrapers are permitted to be erected in great numbers.

Health

Isolated skyscrapers afford as a rule air and light to its occupants in sufficient amount but often at the expense of adjoining properties. When many skyscrapers are erected in close proximity to one another they destroy many of the advantages enjoyed by the first of their number. In some instances it has become necessary to abandon for office purposes lower floors because of lack of light and ventilation and by reducing rentals induce small manufacturers or storage concerns to occupy the premises. But where such changes in the type of tenants have not been effected increasing deterioration in the health of persons employed in these buildings has been noted. Health is sometimes regarded as merely the absence of disease, but as has been pointed out by Geo. C. Whipple, Professor of Sanitary Engineering of Harvard University (New York Commission

report) that is not a complete conception of health. "Health is something positive and involves physique and vitality and it is mental as well as physical."

Dr. Gustav F. Boehme, Jr., neurologist, testified to the rapid increase in nervous disorders and troubles and to the very direct relation between such increase and the present high buildings and hap-hazard development and the congestion, noise and confusion incident thereto. The necessity for reducing the stress and strain of city life is becoming more and more apparent. Public health and vitality must be conserved rather than being abused and exhausted.

Fire Dangers

That fireproof buildings are proof against danger in a general conflagration has been amply disproved in the catastrophes which visited Baltimore and San Francisco many years ago. While their destruction may not be complete they and their contents are sufficiently subject to fire damage to cause panic and thereby may cause congestion in the streets sufficient to seriously hamper the work of the fire department. Streets densely packed with crowds of people that quickly form in the event of fire, render the movement of fire apparatus difficult and the outpouring of large numbers of people from nearby buildings is more than likely to result in tragic consequences. It is more than foolhardy to ignore such possibilities by piling story on story and further extending the danger zone.

The fire department cannot fight a fire from the outside more than 85 feet to 100 feet above the ground. Above that they must rely on stand pipes in the building. If the stand pipe does not work or if the fire is so near the stand pipe as to render its use impracticable the fire department becomes helpless. No fatal fire in a modern high building has yet occurred but it is not an impossibility. Though fires in tall buildings may be controlled, panics cannot be.

Mr. Edward S. Devlin, Superintendent of the New York Life Insurance Co., testified before the New York Commission that insurance companies recognized the additional hazard attending so-called skyscrapers by increasing their rates with progressive stories.

Mr. Edmund Dwight, President of the Casualty Insurance Co., in pleading for lower buildings, testified as follows: "I desire to put myself on record as believing that the time has

come in New York when there should be a most rigid limitation to the height of buildings and that very high buildings constitute a greatly added menace and peril to the community."

Mr. William Guerin, Acting Chief Bureau of Fire Prevention (1913) testified that for New York a height limit of 150 feet could be supported as a reasonable regulation under the police powers of the State and Mr. Edward Hardy, representing the New York Fire Insurance Exchange, held a limit of 125 feet to be satisfactory.

Sewage and water supply problems are also greatly complicated by the presence of very tall buildings through the overtaxing of their capacities.

Land Valuation

It has been held that skyscrapers are necessitated by the high valuation placed on downtown property by tax assessors. This contention is not borne out by the records of the local tax commissioner's office. The increase in assessed valuations of downtown properties is on a par with increases in other parts of the city where skyscrapers are little likely to be erected. The effect of skyscrapers on adjoining properties seems to be detrimental rather than otherwise because of the curtailment of light and air, as the attached letter from Mr. E. H. Bodden, Milwaukee's Tax Commissioner, illustrates. It is a condition common to all large cities. In New York many hundred thousands of dollars are lost to the city because of the lowered assessed valuation of costly skyscrapers due to loss of air and light when such buildings were crowded one next to the other. In taking to themselves a majority of office tenants, skyscrapers further retard a general development of property for many years, giving the city a ragged, wild and provincial appearance.

A Natural Limitation.

As the architects of Milwaukee have asked that a limit of 185 feet be considered for downtown properties, it is but just to them to state why a limit of 125 feet is preferable.

Any height limit exceeding the street width is a concession to American precedent and what are thought to be business requirements. From the standpoint of public health, congestion and fire dangers, the height limitations set by European cities would be preferable by far. But in the opinion of leading

architects and others who testified before the New York Heights of Buildings' Commission, a skyscraper is not a source of great profit at best. The average net income appears to be in the neighborhood of only $3\frac{1}{2}\%$, very few paying as high as 6% . These architects also testified that a ten or twelve story building has reached the logical limit because the cost per cubic foot increases arithmetically with the increase of stories beyond that point. The attached letters and telegrams from prominent architects support this contention.

A limitation of 125 feet is therefore not a hardship on property owners, and though a concession as above stated, it will tend to keep in hand the dangers incident to groups of skyscrapers. For such reasons Boston set a limit of 125 feet in 1911, Washington a limit of 110 feet and New York a limit of 125 feet for 5th Avenue. A similar limit for Milwaukee seems to be well within reason.

In districts other than the downtown district it is desirable to approach the street width limit but as a concession again certain streets were given approximately a $1\frac{1}{4}$ street width limit. The exact heights were made to conform to height limits prescribed by the State building code for various types of construction.



CHICAGO, October 14, 1920.

*Mr. Wm. H. Schuchardt,
Member Board of Public Land Commissioners,
Milwaukee, Wis.*

DEAR SIR:

Pursuant to your telegram of the 13th inst., I am pleased to reply that I found that ten or twelve story buildings were more economical to build than buildings of double that height or higher, prior to 1915.

My firm built ten and twelve story hotels for 45 cents and office buildings for 40 cents per cubic foot. At that time the cubic foot cost of the whole building increased about $1\frac{1}{2}$ cents with each additional story and the rentable area of each floor was decreased by the necessity for more elevators and larger light courts.

I am of the opinion that a limit of 125 feet, such as accepted for Fifth Avenue, New York, is a benefit to the community. I am of the belief that New York permits greater heights with proper set-backs.

Trusting that my reply is clear, I am

Yours very truly,

RICHARD E. SCHMIDT.

P. S. The above-mentioned increase of $1\frac{1}{2}$ cents, increases in an arithmetical progression, i. e., $41\frac{1}{2}$, 43, $44\frac{1}{2}$, ~~A~~₄6 and so forth.

R. E. S.

ST. LOUIS, MO., 10 A Oct. 14, 1920.

Wm. H. Schuchardt,

Care Board of Public Land Commissioners,

Milwaukee, Wis.

It undoubtedly costs more to erect and operate tall buildings. Twelve story buildings are better for the owner and also the city as a height limit distributes values over greater areas. Restrictions of height are beneficial to cities. New York's limit is two and one-half times the width of the streets, St. Louis has a zoning ordinance which limits heights in downtown districts to one hundred fifty feet. The effect of such restrictions will prevent traffic congestion, enhance the value of buildings and improves the health of occupants. Milwaukee would be thoroughly justified in insisting upon reasonable restrictions and will find that the courts recognize the value of such laws.

JOHN LAWRENCE MAURAN.

NEW YORK, N. Y., AM Oct. 15, 1920.

Wm. H. Schuchardt,

Board of Public Land Commissioners,

Milwaukee, Wis.

Building ten to twelve stories in nineteen thirteen costing forty to fifty cents cubic foot would have cost about ten to fifteen cents more for twenty stories. Strongly believe one hundred twenty-five feet should be maximum height.

THOMAS HASTINGS.

NEW YORK, N. Y., PM 6 15, Oct. 14, 1920.

William H. Schuchardt,

Board of Public Land Commissioners,

Milwaukee, Wis.

In general cost per cubic foot increases with height of building. In New York the law requires much more complete fire-proofing in buildings over one hundred and fifty feet high thus greatly increasing cost. Increased size of courts as height increases reduces area of upper floors and makes them relatively more expensive. Height limit one hundred twenty-five feet Fifth Avenue undoubtedly benefit to community but strong movement now on foot to reduce limit above Fifty-ninth Street to seventy-five feet to protect against apartment houses.

BURT L. PENNER, of McKim Mead & White.

NEW YORK, N. Y., PM 5 43, Oct. 14, 1920.

Wm. H. Schuchardt,
Care Board of Public Land Commissioners,
Milwaukee, Wis.

I agree with statement of relative cost of buildings as stated in report of New York Commission and I believe that limiting height of buildings on Fifth Avenue is a great benefit to the city.

ARNOLD W. BRUNNER.

NUMBER OF BUILDINGS IN DOWNTOWN DISTRICT

Bounded North by Chestnut, South by River and Chicago Street, East by Jefferson, West by Eighth Street.

No. of Stories	No. of Buildings
1	549
2	934
3	321
4	160
5	45
6	42
7	10
8	16
9	2
10	2
11	..
12	1
13	..
14	..
15	2
16	1

October 6, 1920.

*George F. Staal, Esq., Secretary,
Board of Public Land Commissioners,
Milwaukee, Wis.*

DEAR SIR:

I have received your letter of the 2d and telegram of the same date inviting me to go to Milwaukee with Mr. Bassett to defend your height limit of one hundred twenty-five feet. I should greatly like to do this but I cannot get away. Mr. Bassett and I talked about the matter yesterday and I think he will go.

Mr. Bassett and I are of one mind as to the limit you propose—that it is as high as you should have. I should not permit any such height at all if I could help it nor would I permit so great a height over a large area. I remember Milwaukee fairly well and I should think that there is a very small part of the city where it is at all necessary to allow buildings one hundred twenty-five feet high. I have no objection to towers if they cover not more than twenty per cent. of the lot. Ordinarily I should say that no building should exceed the width of the street in height nor should any building exceed sixty-five feet in height though I think I should permit set-backs an increased height of one foot for each foot the wall is set back from the building line.

The maximum height allowed in Paris is sixty-five feet and a fraction below the cornice line. Above the cornice line a mansard is allowed which is a little higher than an angle of forty-five degrees. The height of the mansard varies with the width of the street. On a very wide street it is considerably higher than a forty-five degree angle. The point is, Paris is a city which is never more than sixty-five feet to the cornice line. Paris is a beautiful city. It is a densely populated city. The average height of the buildings is high compared with the Borough of Manhattan, City of New York, where a few years ago the height was less than four stories, but it is a uniform city. Every city in the United States that allows heights of more than six stories will in time have trouble with street widths. The future of Manhattan is desperate. We did the best we could but what we did was entirely insufficient to give us street width enough for the future.

If you desire to quote me at all you cannot make it too strong that any height above street width is a concession to existing conditions and must be confined absolutely to the area which contains buildings exceeding that height.

Yours truly,

LAWSON PURDY.

October 8, 1920.

*Board of Public Land Commissioners,
Milwaukee, Wis.*

GENTLEMEN :

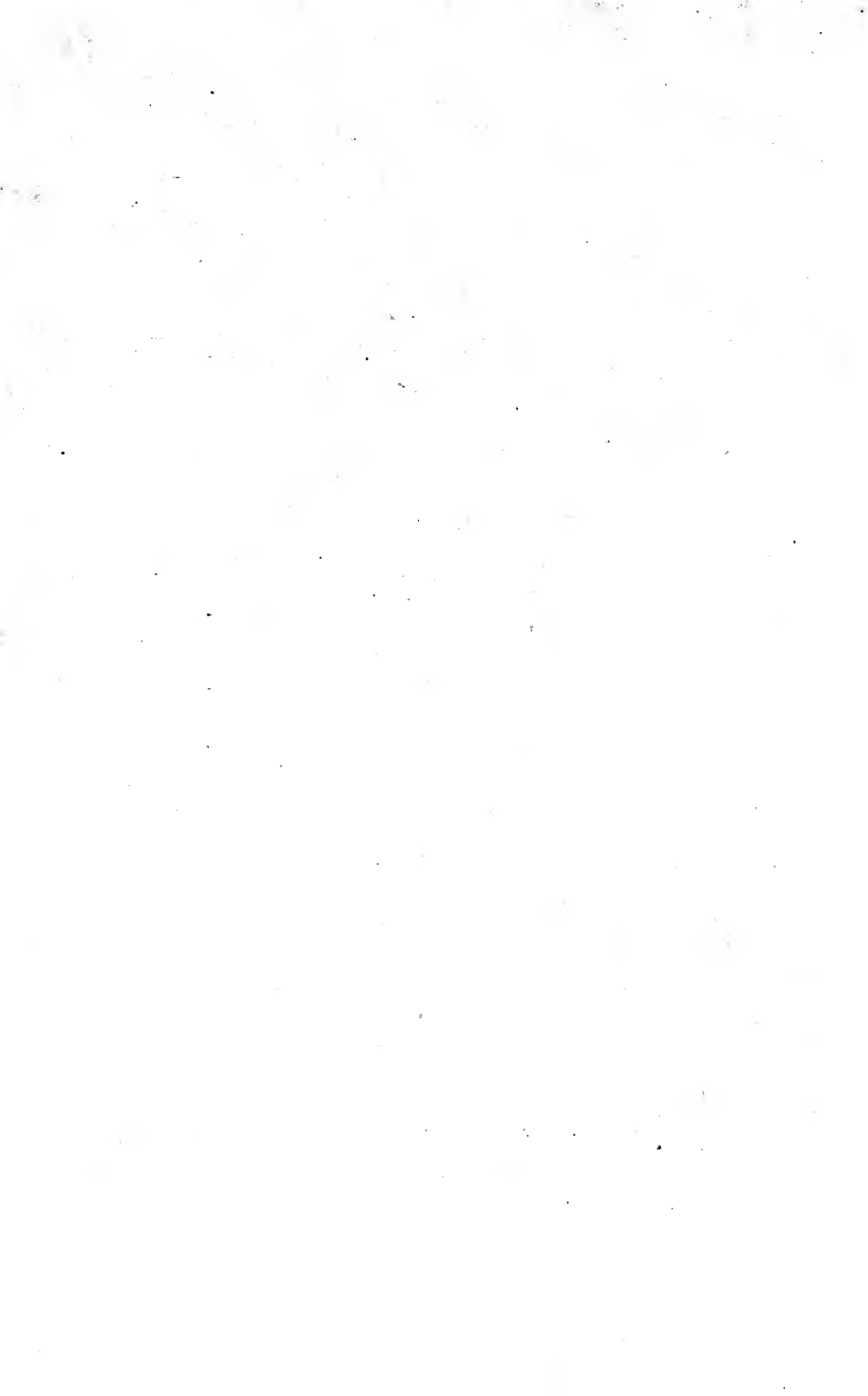
Answering your questionnaire of October 6th, 1920, "Does the height, area and use of buildings erected in any locality affect the assessable value of adjoining property?" will say that my annual instructions to the assessors of this department recognizes the fact that it does and the assessment rolls show numerous instances where allowances have been made upon adjoining property due to the detrimental effect of such buildings. One of the late cases in point is the Abbot building, situated on the N. W. corner of Milwaukee and Mason Streets, just east of the Milwaukee Athletic Club. Mr. Abbot appeared before the Board and pointed out the fact that, due to the extreme height of the club building, the five lower floors on the west side of the Abbot building have been greatly affected, making it necessary to use artificial light throughout the day and thereby materially reducing the revenue derived from said building. The Committee appointed to investigate the situation reported back to the Board that an allowance of \$25,000 should be made, and the same was ratified by the Board. Numerous allowances have been made in residence districts due to apartment houses, public garages and other objectionable buildings being placed therein.

My personal views on zoning is that it is a step in the right direction which should have been taken years ago. I heartily agree with Mr. Lawson Purdy, former Tax Commissioner of New York City, in his conclusion on zoning, "Zoning, properly conceived and carried out, constitutes not only a definite recognition of equality in ownership, but an important protection of taxable values."

Respectfully yours,

E. H. BODDEN,

TAX COMMISSIONER.





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